

NEAREST NEIGHBOR EDGE SELECTION FROM FEATURE TRACKING

ABSTRACT OF THE DISCLOSURE

A method for selecting nearest neighbor edges to construct a 3D model from a sequence of 2D images of a scene. The method includes tracking features of the scene among successive images to generate 3D feature points. The entries of the feature point data correspond to the coordinate positions in each image which a true 3D feature point is viewed. The method also generates depth data of the features of the scene, with entries in the data corresponding to the coordinate position of the features in each image along a depth axis. The method then uses the feature track data, original images, depth data, input edge data, and visibility criteria to determine the position of vertices of the 3D model surface. The feature track data, original images, depth data, and input edge data also provide visibility information to guide the connections of the model vertices to construct the edges of the 3D model.